

Appendiceal *Enterobius Vermicularis* Infestation Associated With Right-Sided Chronic Pelvic Pain

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ABSTRACT

Parasitic infestation is an uncommon cause of chronic pelvic pain among women of reproductive age. A case of chronic right-sided pelvic pain associated with appendiceal *Enterobius vermicularis* infestation was managed with appendectomy and antiparasitic therapy resulting in a complete resolution of symptoms.

Key Words: Appendiceal *Enterobius vermicularis* infestation.

INTRODUCTION

Chronic pelvic pain is a common complaint among women of reproductive age often due to infection, endometriosis, or adhesive disease. However, parasitic infection with resultant pain is usually not considered in the differential diagnosis. We report a case of chronic right lower quadrant abdominal and pelvic pain associated with appendiceal *Enterobius vermicularis* infestation that resolved after appendectomy and antiparasitic therapy.

METHODS AND RESULTS

A 35 year-old, white, nulligravid female presented to the University of South Florida complaining of 2-years duration of chronic pelvic pain, particularly on the right side. The pain was not associated with her menses and was said to be intermittent in nature. She also complained of right-sided pain with intercourse. She denied any weight loss, gastrointestinal complaints, or irritation of the vulva, vagina, or anus. She reported no recent travel outside of the country and had no pets at home. Her gynecologic history was significant for laparoscopy 2 years prior for a left ovarian cyst.

A left salpingo-oophorectomy was performed at that time, and there was no note of endometriosis. She reported regular menses and normal pap smears. Prior treatment with oral contraceptive pills and nonsteroidal antiinflammatory drugs provided no relief. On physical examination, her abdomen was soft and nontender. Her pelvic examination revealed normal external genitalia with tenderness in the right adnexa, but no appreciable masses or nodularity. A laparoscopy was then performed and right pelvic side wall adhesions involving the appendix were discovered (**Figure 1**). The adhesions were thin and filmy and easily lysed. A normal right tube and ovary were appreciated, and there was still no evidence of endometriosis. The appendix was noted to be full and a laparoscopic appendectomy was performed.

Pathology reported a specimen measuring 6 cm long with a diameter of 0.5 cm. Fibrous adhesions were noted near the distal end. A nematode was discovered in the appendiceal lumen consistent with *E. vermicularis* (**Figure 2**). The patient was treated with a single tablet

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of mebendazole (Vermox) 100 mg orally, with a second dose given 2 weeks later. Postoperative follow-up at 2 weeks and at 4 months posttreatment revealed complete resolution of her pain.

DISCUSSION

E. vermicularis or pinworm is a common parasitic infection that is found mostly in the pediatric population. The life cycle of this parasite starts with the ingestion of the eggs, which then hatch in the small intestine where the adult worm resides and mates. The female *E. vermicularis* then migrates down to and out of the rectum and deposits her eggs on the perianal skin. The majority of adult patients are asymptomatic; however, symptoms of *E. vermicularis* infestation can include perineal puritis, weight loss, vulvovaginitis, and chronic salpingitis. *E. vermicularis* has been documented on pap smears and throughout the genital tract including endometrium, fallopian tube, as well as in granulomas involving the ovary and pelvic peritoneum.¹ Presumably, in these uncommon circumstances, the female worm travels from the anus to the vagina and ascends the genital tract all the way into the pelvic cavity.

In 1939, Botsford² reported a small series of patients presenting with complaints of chronic right lower quadrant abdominal pain, similar to our case, who were found to have appendiceal *Enterobius* infestation on pathological examination of the appendix. In 2 more recent surgical series,³ performed outside of the United States, the incidence of *Enterobius* infestation was low and commonly associated with an appendix that appeared normal. Less commonly, the appendix specimen showed acute and chronic inflammatory changes and peritoneal granulomas and periappendiceal adhesive disease, as in our case. Although these studies demonstrated the importance of pathological identification of nematodes and their oocytes, to make a specific diagnosis, they did not emphasize the need for any systemic therapy, as they considered appendectomy as curative.⁴ In a recent report from the gynecological literature,⁵ the pathological specimen from a hysterectomy case for chronic pelvic pain demonstrated the surprise finding of acute and chronic salpingitis due to *E. vermicularis* infestation of the fallopian tube. This same patient had an appendectomy 5 years earlier for *E. vermicularis*-related appendicitis. It was not clear in this case whether the tubal infestation was caused by local spread from the infested appendiceal stump at the time of surgery or had later spread via a

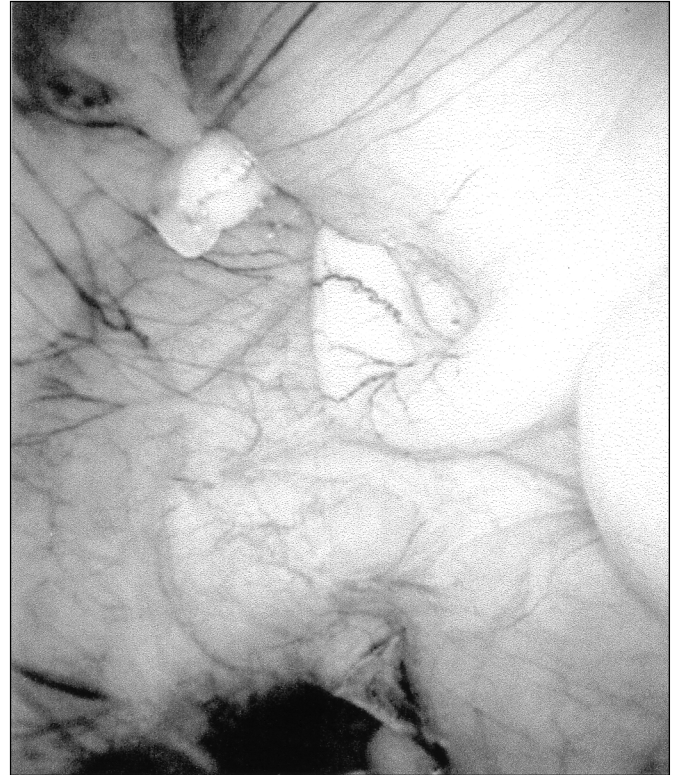


Figure 1. Appearance of appendix during laparoscopy.

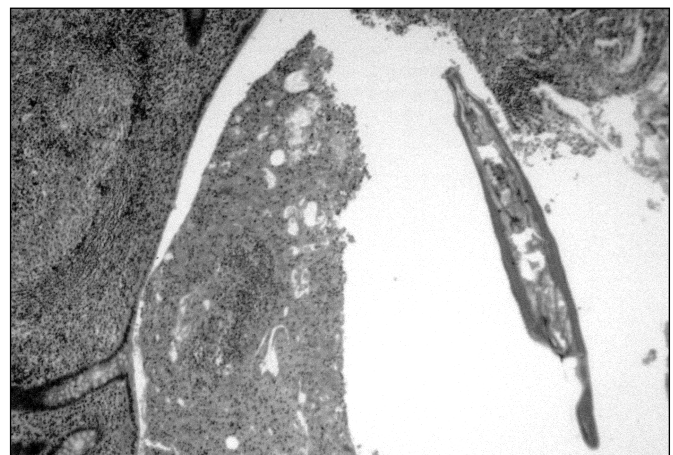


Figure 2. Histologic slide of nematode in appendiceal lumen.

transperineal route to her upper genital tract. This case clearly demonstrates the importance of eradicating the entire reservoir of *E. vermicularis* from the gastrointestinal tract, even after appendectomy.

The treatment of *E. vermicularis* infection involves one dose of pyrantel pamoate 11 mg/kg, or mebendazole 100 mg orally with a second dose in 2 weeks to treat possible reinfection.⁶ It is also recommended that family members be treated to eliminate asymptomatic reservoirs.

CONCLUSION

The differential diagnosis for chronic pelvic pain includes pelvic infection, endometriosis, adhesive disease, or gastrointestinal pathology. Nematode infestation of the appendix as a cause of chronic right-sided pelvic pain is an uncommon diagnosis, which should be considered when the more common etiologies have been ruled out. This particular patient had no identifiable risk factors for parasitic infection, the diagnosis being made only after microscopic examination of the appendix. Appendiceal

nematode infestation manifested by gynecologic complaints, although rare, can occur and can be easily treated.

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